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Kunwadee Sripanidkulchai, Andy Myers, Hui Zhang

May 1999 **ACM SIGMETRICS Performance Evaluation Review , Proceedings of the 1999 ACM SIGMETRICS international conference on Measurement and modeling of computer systems**, Volume 27 Issue 1Full text available: [pdf\(1.81 MB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)**2 Policy tree multicast routing: an extension to sparse mode source tree delivery**

Horst Hodel

April 1998 **ACM SIGCOMM Computer Communication Review**, Volume 28 Issue 2Full text available: [pdf\(2.41 MB\)](#) Additional Information: [full citation](#), [abstract](#), [index terms](#)

Bandwidth-sensitive multicast delivery controlled by routing criteria pertinent to the actual traffic flow is very costly in terms of router state and control overhead and it scales poorly towards larger, wide-area networks. PIM-SM (Protocol-independent Multicast - Sparse Mode) has been introduced as a simple, flexible and scalable concept for Internet-wide multicasting. Yet, PIM's efficiency potential (like that of alternative wide-area multicast concepts) can only be fully exploited if it is b ...

3 Client-server computing in mobile environments

Jin Jing, Abdelsalam Sumi Helal, Ahmed Elmagarmid

June 1999 **ACM Computing Surveys (CSUR)**, Volume 31 Issue 2Full text available: [pdf\(233.31 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

Recent advances in wireless data networking and portable information appliances have engendered a new paradigm of computing, called mobile computing, in which users carrying portable devices have access to data and information services regardless of their physical location or movement behavior. In the meantime, research addressing information access in mobile environments has proliferated. In this survey, we provide a concrete framework and categorization of the various way ...

Keywords: application adaptation, cache invalidation, caching, client/server, data dissemination, disconnected operation, mobile applications, mobile client/server, mobile computing, mobile data, mobility awareness, survey, system application

4 Authentication in distributed systems: theory and practice

Butler Lampson, Martín Abadi, Michael Burrows, Edward Wobber

November 1992 **ACM Transactions on Computer Systems (TOCS)**, Volume 10 Issue 4Full text available:  pdf(3.37 MB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

We describe a theory of authentication and a system that implements it. Our theory is based on the notion of principal and a "speaks for" relation between principals. A simple principal either has a name or is a communication channel; a compound principal can express an adopted role or delegated authority. The theory shows how to reason about a principal's authority by deducing the other principals that it can speak for; authenticating a channel is one important application. We ...

Keywords: certification authority, delegation, group, interprocess communication, key distribution, loading programs, path name, principal, role, secure channel, speaks for, trusted computing base

5 Fast detection of communication patterns in distributed executions

Thomas Kunz, Michiel F. H. Seuren

November 1997 **Proceedings of the 1997 conference of the Centre for Advanced Studies on Collaborative research**Full text available:  pdf(4.21 MB)Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Understanding distributed applications is a tedious and difficult task. Visualizations based on process-time diagrams are often used to obtain a better understanding of the execution of the application. The visualization tool we use is Poet, an event tracer developed at the University of Waterloo. However, these diagrams are often very complex and do not provide the user with the desired overview of the application. In our experience, such tools display repeated occurrences of non-trivial commun ...

6 Link services or link agents?

L. A. Carr, W. Hall, S. Hitchcock

May 1998 **Proceedings of the ninth ACM conference on Hypertext and hypermedia : links, objects, time and space---structure in hypermedia systems: links, objects, time and space---structure in hypermedia systems**Full text available:  pdf(1.59 MB)Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)**7 A distributed control strategy for wireless ATM networks**

M. Veeraraghavan, T. F. La Porta, R. Ramjee

March 1995 **Wireless Networks**, Volume 1 Issue 3Full text available:  pdf(609.14 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

Cellular networks are expected to be upgraded to offer Personal Communication Services (PCS). The mobility management and wireless call control approach used in cellular networks are currently being proposed for use in PCS networks. Recent work indicates that both the signaling load and database update rates caused by these mobility management and call control procedures will increase significantly in next generation PCS networks. In this paper, we propose and analyze a new cluster-based ar ...

8**Extending document management systems with user-specific active properties**

Paul Dourish, W. Keith Edwards, Anthony LaMarca, John Lamping, Karin Petersen, Michael

Salisbury, Douglas B. Terry, James Thornton
April 2000 **ACM Transactions on Information Systems (TOIS)**, Volume 18 Issue 2

Full text available:  pdf(166.43 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Document properties are a compelling infrastructure on which to develop document management applications. A property-based approach avoids many of the problems of traditional hierarchical storage mechanisms, reflects document organizations meaningful to user tasks, provides a means to integrate the perspectives of multiple individuals and groups, and does this all within a uniform interaction framework. Document properties can reflect not only categorizations of documents and document use ...

Keywords: active properties, component software, document management systems, document services, user experience

9 A framework for scalable dissemination-based systems

Michael Franklin, Stanley Zdonik

October 1997 **ACM SIGPLAN Notices , Proceedings of the 12th ACM SIGPLAN conference on Object-oriented programming, systems, languages, and applications**, Volume 32 Issue 10

Full text available:  pdf(1.79 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The dramatic improvements in global interconnectivity due to intranets, extranets, and the Internet has led to an explosion in the number and variety of new data-intensive applications. Along with the proliferation of these new applications have come increased problems of scale. This is demonstrated by frequent delays and service disruptions when accessing networked data sources. Recently, push-based techniques have been proposed as a solution to scalability problems for distributed application ...

10 Comparison of signaling loads for PCS systems

Thomas F. La Porta, Malathi Veeraraghavan, Richard W. Buskens

December 1996 **IEEE/ACM Transactions on Networking (TON)**, Volume 4 Issue 6

Full text available:  pdf(1.72 MB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

11 Investigating link service infrastructures

David C. De Roure, Nigel G. Walker, Leslie A. Carr

May 2000 **Proceedings of the eleventh ACM on Hypertext and hypermedia**

Full text available:  pdf(133.87 KB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: LDAP, Whois++, directory services, distributed link service, link service, open hypermedia, query routing

12 Distributed operating systems

Andrew S. Tanenbaum, Robbert Van Renesse

December 1985 **ACM Computing Surveys (CSUR)**, Volume 17 Issue 4

Full text available:  pdf(5.49 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

Distributed operating systems have many aspects in common with centralized ones, but they also differ in certain ways. This paper is intended as an introduction to distributed

operating systems, and especially to current university research about them. After a discussion of what constitutes a distributed operating system and how it is distinguished from a computer network, various key design issues are discussed. Then several examples of current research projects are examined in some detail ...

13 Distributed file systems: concepts and examples

Eliezer Levy, Abraham Silberschatz

December 1990 **ACM Computing Surveys (CSUR)**, Volume 22 Issue 4

Full text available:  pdf(5.33 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

The purpose of a distributed file system (DFS) is to allow users of physically distributed computers to share data and storage resources by using a common file system. A typical configuration for a DFS is a collection of workstations and mainframes connected by a local area network (LAN). A DFS is implemented as part of the operating system of each of the connected computers. This paper establishes a viewpoint that emphasizes the dispersed structure and decentralization of both data and con ...

14 The transport layer: tutorial and survey

Sami Iren, Paul D. Amer, Phillip T. Conrad

December 1999 **ACM Computing Surveys (CSUR)**, Volume 31 Issue 4

Full text available:  pdf(261.78 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Transport layer protocols provide for end-to-end communication between two or more hosts. This paper presents a tutorial on transport layer concepts and terminology, and a survey of transport layer services and protocols. The transport layer protocol TCP is used as a reference point, and compared and contrasted with nineteen other protocols designed over the past two decades. The service and protocol features of twelve of the most important protocols are summarized in both text and tables.< ...

Keywords: TCP/IP networks, congestion control, flow control, transport protocol, transport service

15 An end-to-end approach to host mobility

Alex C. Snoeren, Hari Balakrishnan

August 2000 **Proceedings of the 6th annual international conference on Mobile computing and networking**

Full text available:  pdf(1.35 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We present the design and implementation of an end-to-end architecture for Internet host mobility using dynamic updates to the Domain Name System (DNS) to track host location. Existing TCP connections are retained using secure and efficient connection migration, enabling established connections to seamlessly negotiate a change in endpoint IP addresses without the need for a third party. Our architecture is secure—name updates are effected via the secure DNS update protocol, while TCP ...

16 Video staging: a proxy-server-based approach to end-to-end video delivery over wide-area networks

Zhi-Li Zhang, Yuewei Wang, David H. C. Du, Dongli Shu

August 2000 **IEEE/ACM Transactions on Networking (TON)**, Volume 8 Issue 4

Full text available:  pdf(432.53 KB)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#), [review](#)

Keywords: MPEG, end-to-end video delivery, heterogeneous networking environment, proxy server, video smoothing, video staging, video streaming

17 Reliable communication in the presence of failures

Kenneth P. Birman, Thomas A. Joseph

January 1987 **ACM Transactions on Computer Systems (TOCS)**, Volume 5 Issue 1

Full text available:  pdf(2.62 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

The design and correctness of a communication facility for a distributed computer system are reported on. The facility provides support for fault-tolerant process groups in the form of a family of reliable multicast protocols that can be used in both local- and wide-area networks. These protocols attain high levels of concurrency, while respecting application-specific delivery ordering constraints, and have varying cost and performance that depend on the degree of ordering ...

18 Experiences with network-based user agents for mobile applications

Thomas F. La Porta, Thomas Woo, Krishan K. Sabnani, Ramachandran Ramjee

August 1998 **Mobile Networks and Applications**, Volume 3 Issue 2

Full text available:  pdf(631.57 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Wireless networks are characterized by simple end devices and limited bandwidth. One solution to address these and other limitations of the wireless mobile environment that has been widely pursued is the placement of proxies, or agents, inside the network to assist with application processing that would normally take place on end devices. These agents can additionally manipulate data to reduce bandwidth requirements and assist in providing services. The design and implementation of a user a ...

19 CRL: high-performance all-software distributed shared memory

K. L. Johnson, M. F. Kaashoek, D. A. Wallach

December 1995 **ACM SIGOPS Operating Systems Review , Proceedings of the fifteenth ACM symposium on Operating systems principles**, Volume 29 Issue 5

Full text available:  pdf(2.02 MB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

20 Multicast security and its extension to a mobile environment

Li Gong, Nachum Shacham

March 1995 **Wireless Networks**, Volume 1 Issue 3

Full text available:  pdf(1.22 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

Multicast is rapidly becoming an important mode of communication and a good platform for building group-oriented services. To be used for trusted communication, however, current multicast schemes must be supplemented by mechanisms for protecting traffic, controlling participation, and restricting access of unauthorized users to data exchanged by the participants. In this paper, we consider fundamental security issues in building a trusted multicast facility. We discuss techniques for group- ...

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